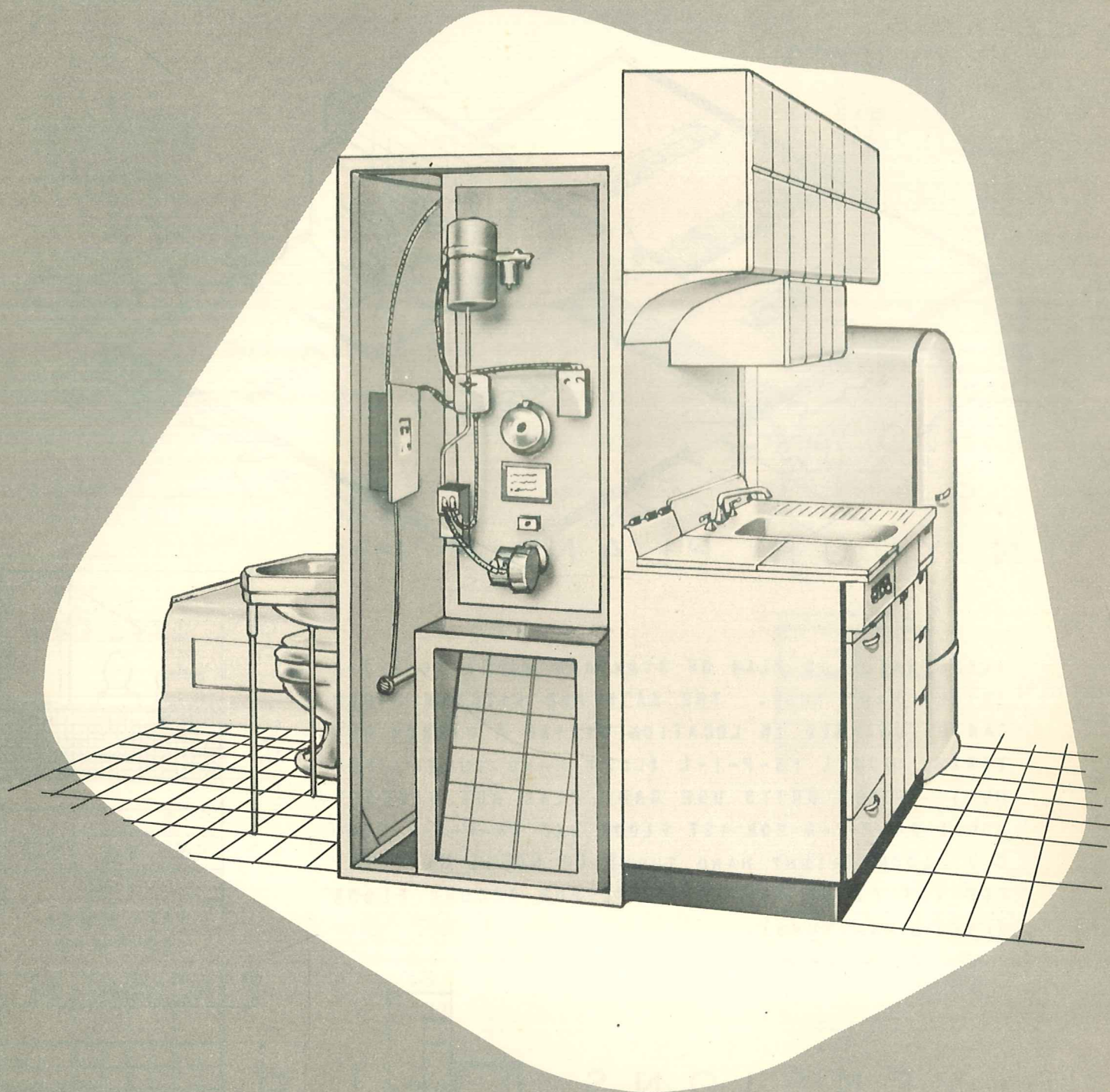


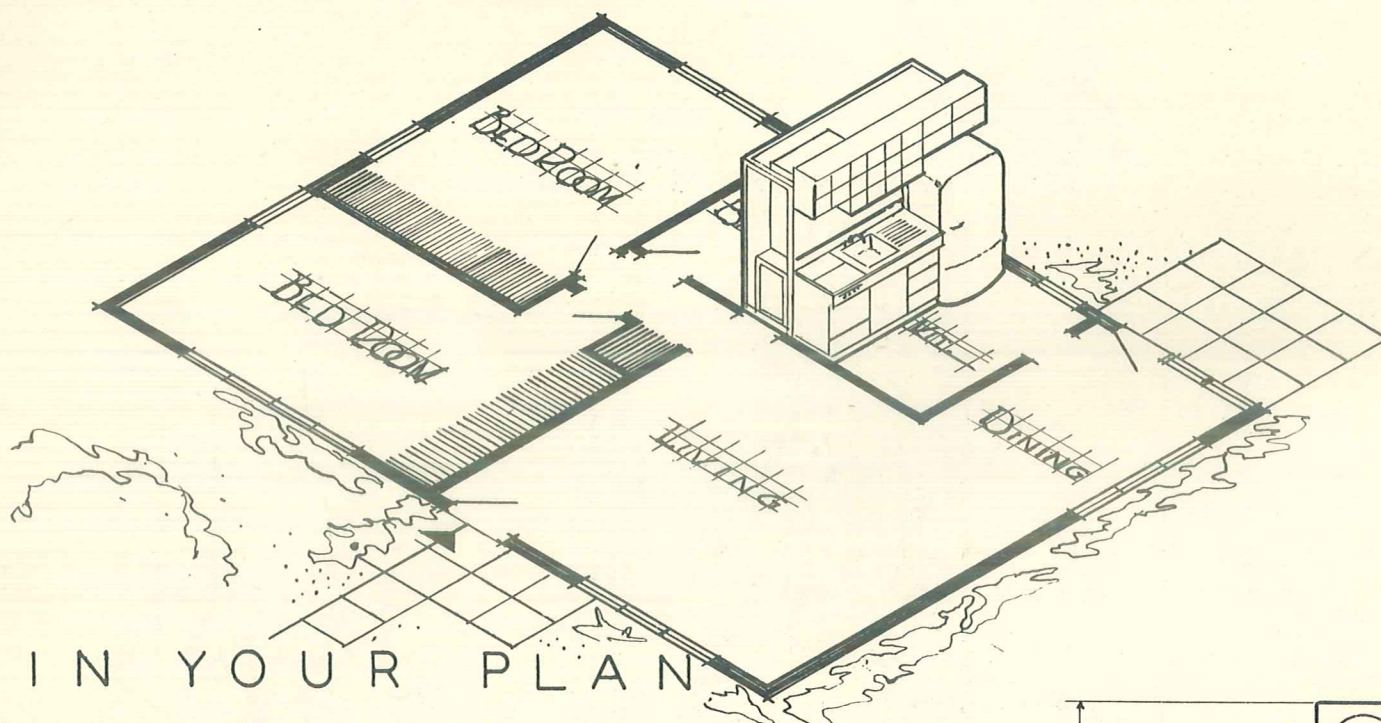
architect's

DESIGN DATA



INGERSOLL UTILITY UNIT

STANDARD INSTALLATION

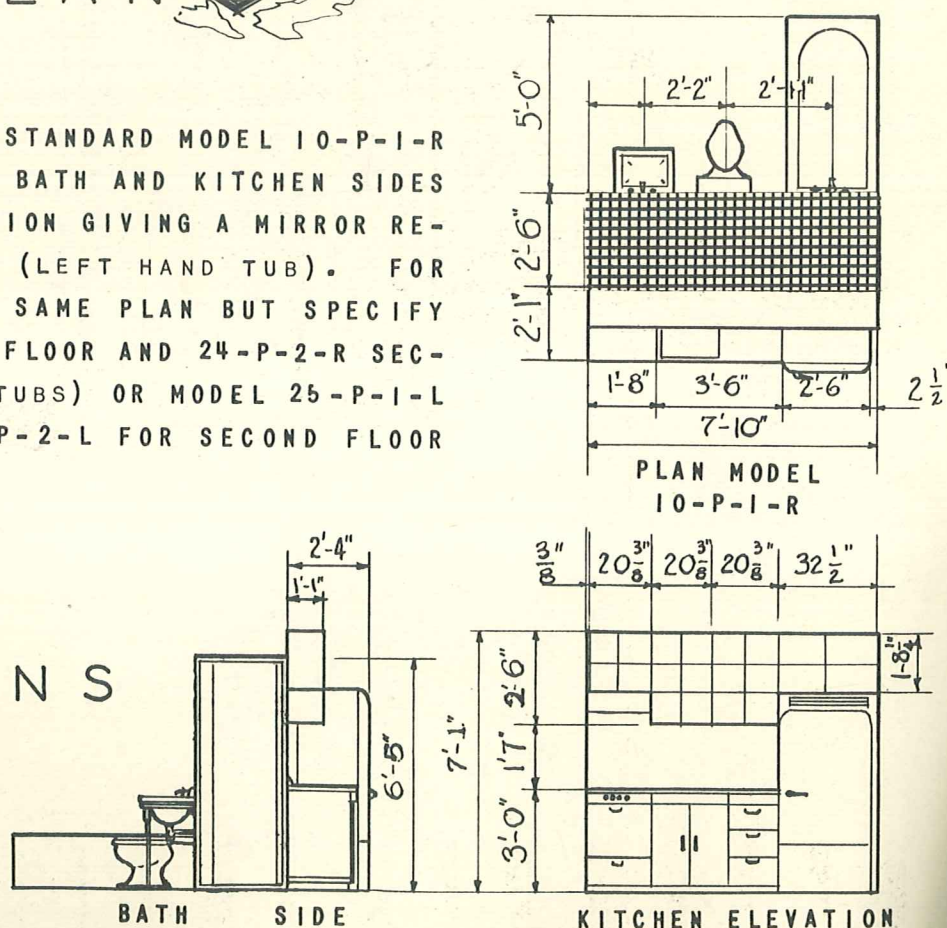


ILLUSTRATED IS PLAN OF STANDARD MODEL 10-P-1-R (RIGHT HAND TUB). THE BATH AND KITCHEN SIDES CAN BE CHANGED IN LOCATION GIVING A MIRROR REVERSAL MODEL 15-P-1-L (LEFT HAND TUB). FOR MULTI-STORY UNITS USE SAME PLAN BUT SPECIFY MODEL 24-P-1-R FOR 1ST FLOOR AND 24-P-2-R SECOND FLOOR (RIGHT HAND TUBS) OR MODEL 25-P-1-L FOR 1ST FLOOR AND 25-P-2-L FOR SECOND FLOOR (LEFT HAND TUBS).

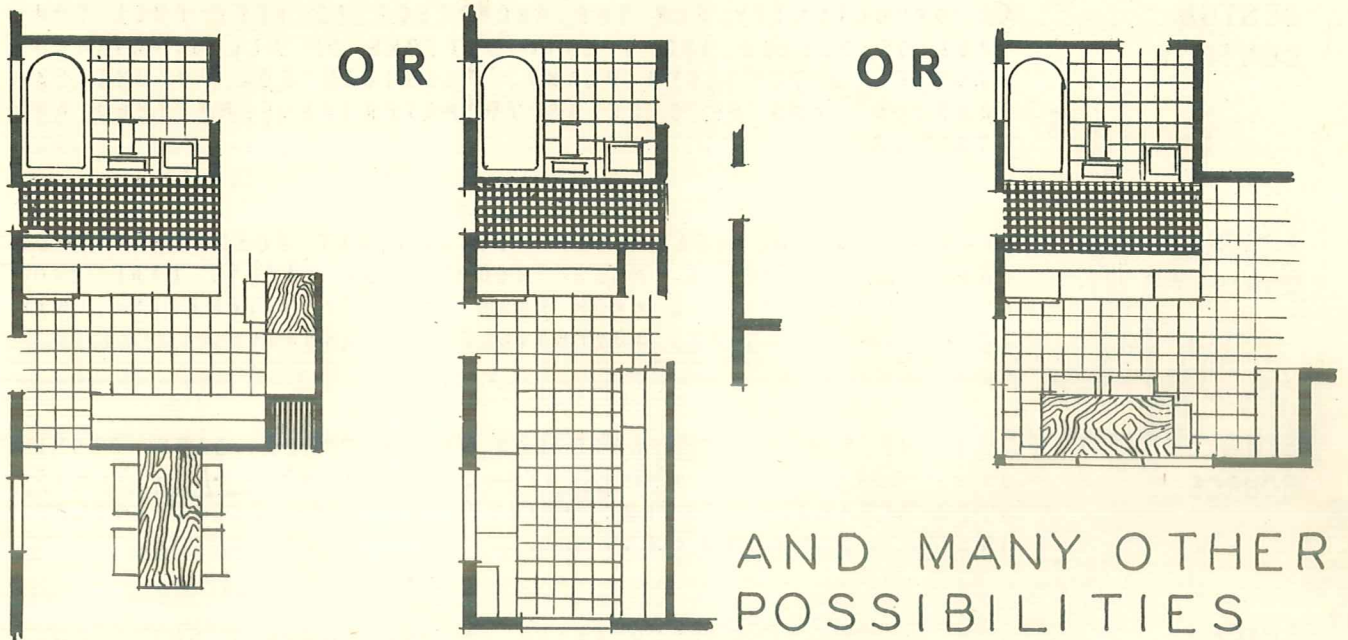
DIMENSIONS

SCALE $3/16" = 1'0"$

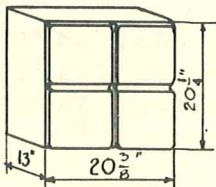
7'-11" should be allowed from finish wall to finish wall on kitchen side



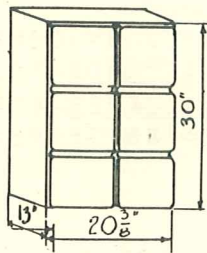
— — — — CAN BE EXPANDED TO



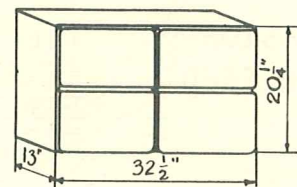
BY USING THESE CABINETS



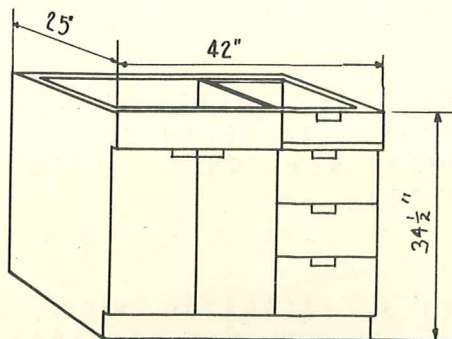
IO-P-4204



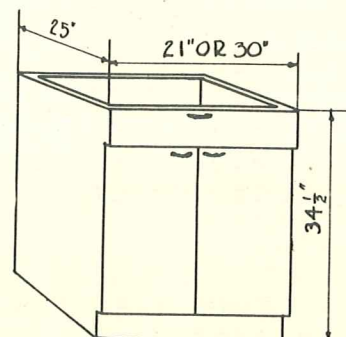
IO-P-4201



IO-P-4203



IO-P-4001
WITHOUT TOP



IO-P-4002-21"
IO-P-4003-30"
WITHOUT TOP

ADVANTAGES OF USING THE INGERSOLL UTILITY UNIT

DESIGN CONTROL

AN OPPORTUNITY FOR THE ARCHITECT TO KEEP FULL CONTROL OF DESIGN AND SPECIFICATIONS OF ALL UTILITIES. SIMPLE TO PUT INTO PLANS, FLEXIBLE FOR FUTURE EXPANSION, AND PRECISE AS TO MATERIAL FURNISHED AND ITS USE.

ASSURED QUALITY

CARRIES A ONE YEAR WARRANTY AGAINST POSSIBILITY OF INOPERATIVE PARTS. MASS PRODUCED BY LATEST LINE PRODUCTION TECHNIQUES FROM HIGH QUALITY MATERIALS. NATIONALLY KNOWN AND ADVERTISED ACCESSORIES.

SINGLE SOURCE

ALL THE COMPONENT PARTS FOR THE KITCHEN, BATH, PLUMBING, ELECTRICAL AND HEATING PLANT AT ONE PURCHASE WITH A SINGLE RESPONSIBILITY FOR QUALITY, DELIVERY, INSTALLATION AND SERVICE.

SPACE SAVING

UTILITIES ARE CONCENTRATED IN ONE COMPACT UNIT, COVERING APPROXIMATELY 75½ SQ. FT., RESULTING IN MORE USEABLE FLOOR SPACE FOR THE HOME.

PRECISION- ENGINEERED

THOROUGHLY TESTED BY COMPETENT ENGINEERS. APPROVED BY UNDERWRITERS LABORATORIES. OPERATIVE PARTS FACTORY CHECKED BY EXPERIENCED TECHNICIANS. ASSEMBLED BY A.F.L. BUILDING TRADES MECHANICS.

FASTER CONSTRUCTION

A PREFABRICATED ASSEMBLY REDUCING FIELD INSTALLATION LABOR. NO CUTTING OR FITTING REQUIRED. INSTALLATION SIMPLE MATTER OF MAKING CONNECTIONS. CAN BE INSTALLED AT ALMOST ANY STAGE OF CONSTRUCTION.

STYLED FOR TOMORROW

ORIGINATED BY AN ARCHITECT, TESTED BY ARCHITECTS, AND STYLED BY ARCHITECTS. BASED ON SURVEYS OF WHAT HOUSEWIVES WANT IN THEIR NEW HOMES. MODERN DESIGN IN LOW COST CONSTRUCTION.

RESEARCH

FULL TIME LABORATORIES AT KALAMAZOO, MICH., AND CHICAGO, ILL., SEARCHING FOR NEW APPLICATIONS AND IMPROVEMENTS OF MECHANICAL PRINCIPLES. ACTIVE MARKET ANALYSIS PROGRAM DETERMINING CONSUMER PRODUCT ACCEPTABILITY AND DESIGN TRENDS.

THE MECHANICAL CORE

PLUMBING

WASTE AND VENT SYSTEM

Soil Stack and Vent	15,16
Drum Trap	21
Closet Bend	22
Underground Assembly	23

WATER SUPPLY

Cold Water (Copper)	13
Hot Water (Copper)	14
Service Connection	11
To Water Closet	17
To Lavatory	18
To Bathtub	20
To Shower	19

HOT WATER HEATER

Automatic Gas or Electric	12
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GAS

Line to Kitchen	5
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ELECTRICAL

Multi-Breaker Box	8
Leads to Kitchen	9
Leads to Bathroom	10

HEATING

Gas or Oil Furnace	2
Blower Housing	4
Air Filter	3
Flue Base	7
Draft Diverter	6

FRAME

Welded Channel Steel Frame	1
----------------------------	---

BASIC CORE CONSISTS OF:

HEATING: Gas-fired, forced warm air furnace, maximum 100,000 BTU input, 80,000 BTU output, 750 CFM blower with air filter. Thermostatic temperature controls. Flue base draft hood and cold air return grill. Automatic quick recovery gas water heater with 20-gallon galvanized storage tank.

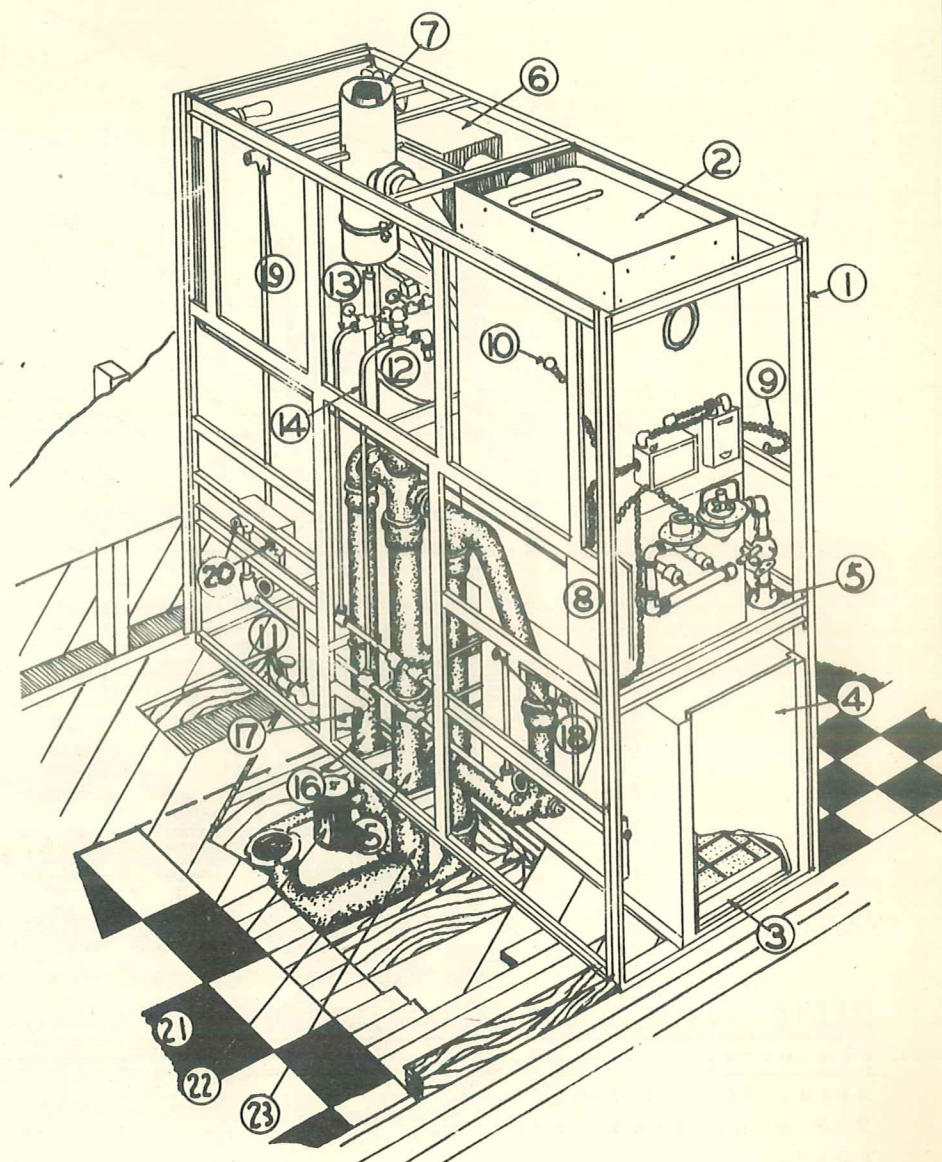
PLUMBING: Soil stack and vents. Underfloor waste connections. Copper tubing for water and black iron for gas lines.

ELECTRICAL: Multi-breaker and complete wiring for all utility unit components.

FRAMING: Welded steel channel with wood filler strips for attaching core covering.

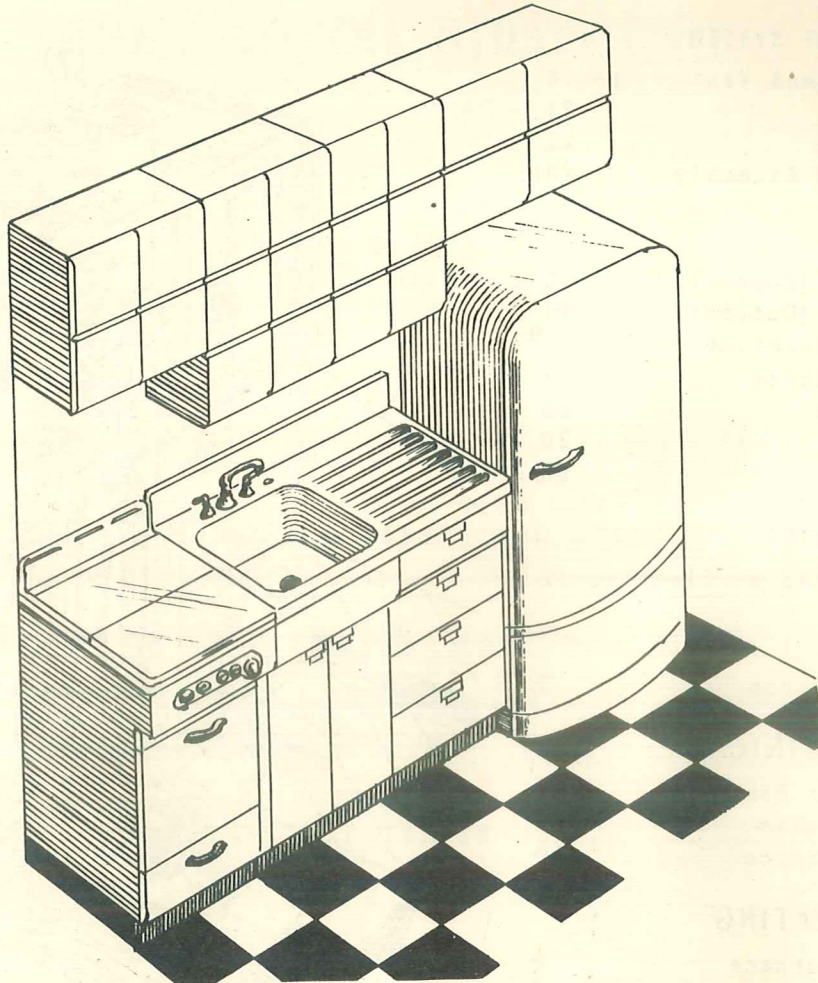
OPTIONAL EQUIPMENT:

HEATING: Vaporizing type oil burner, 75,000 BTU Bonnet output, complete with blower. Thermostatic temperature controls. Automatic Electric Water Heater, 40 gallons.



The Unit has been approved as a Unit by the Underwriters Laboratories, and is Union Made (A.F. of L. Building Trades).

THE KITCHEN SIDE



BASIC KITCHEN SIDE CONSISTS OF:

CABINETS: Two steel oversink cabinets, No. 10-P-4201.

One over-range cabinet, No. 10-P-4204.

One over-refrigerator cabinet, No. 10-P-4203.

One steel undersink cabinet, No. 10-P-4001, with porcelain enameled single sump sink.

Sink fixtures including swinging spigot with adapter for spray hose and chrome cup sink strainer. Cabinet includes refuse container, utility basket, towel rack, bread board and drawer, cutlery tray.

Cabinets have recessed hinged doors and adjustable steel shelves. Condiment rack, pan cover and cup rack included.

OPTIONAL EQUIPMENT:

REFRIGERATOR: Six cu.ft. standard, Eight cu.ft. standard, or Eight cu.ft. Deluxe electric Norge.

RANGE: 20-inch porcelain enameled fold-top electric or gas range. Heat controls. Gas has four burners. Electric - three burners, Two standard and one giant. Both have oven and broiler.

EXTRA CABINETS: Any of the basic cabinets are available, plus the following cabinets.

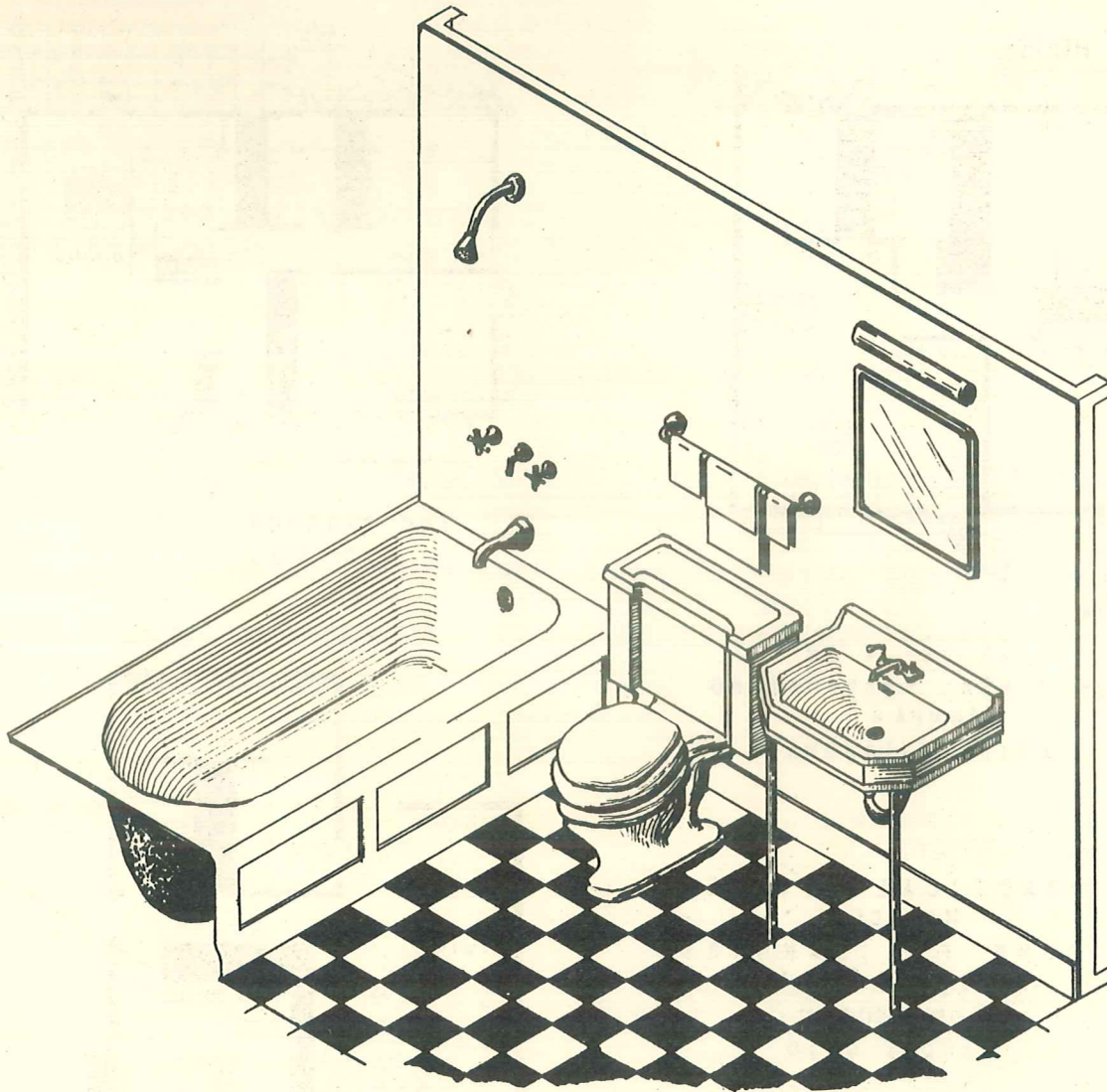
10-P-4002, 21-inch cabinet, replacing range.

10-P-4003, 30-inch cabinet, replacing refrigerator.

These cabinets are furnished without tops.

ELECTRICAL: Fluorescent light with duplex convenience outlet on underside of oversink wall cabinet.

THE BATHROOM SIDE



BASIC BATHROOM SIDE CONSISTS OF:

BATHTUB: Recessed five foot tub with shower. Necessary fittings, and connections for supply and waste. Plug type stopper.

LAVATORY: Vitreous china with chrome-plated supporting legs. All necessary fittings and connections.

WATER CLOSET: Floor mounted closet combination with seat. Syphon wash-down reverse trap closet bowl. Supply and waste connections.

ACCESSORIES: Medicine cabinet with mirror, size 14" x 20". Recessed toilet paper holder. Recessed soap dish and grab bar. One towel rack. All above chrome finished.

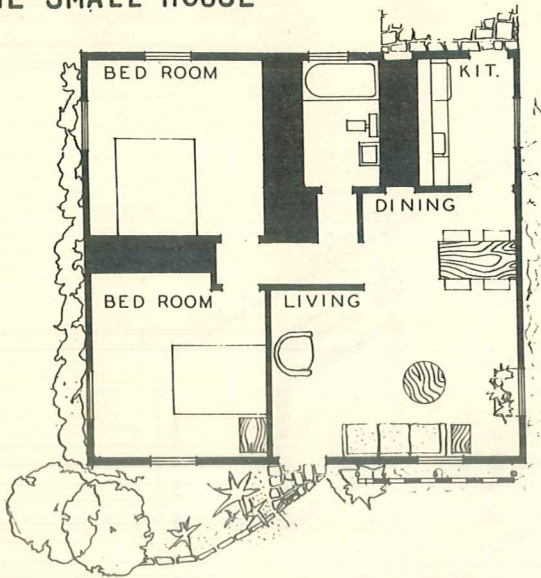
ELECTRICAL: Fluorescent light fixture with convenience outlet.

Note: Does not include shower curtain bar, wall covering or finish.

ADAPTABILITY

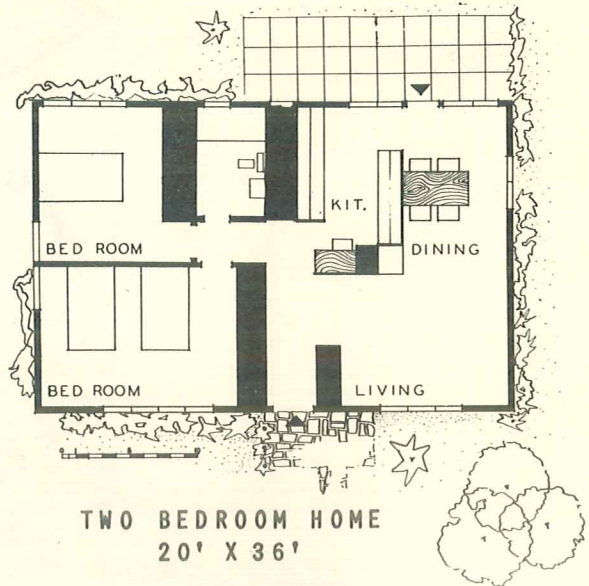
ADAPTABLE TO MOST BASEMENT OR BASEMENTLESS PLANS.

THE SMALL HOUSE

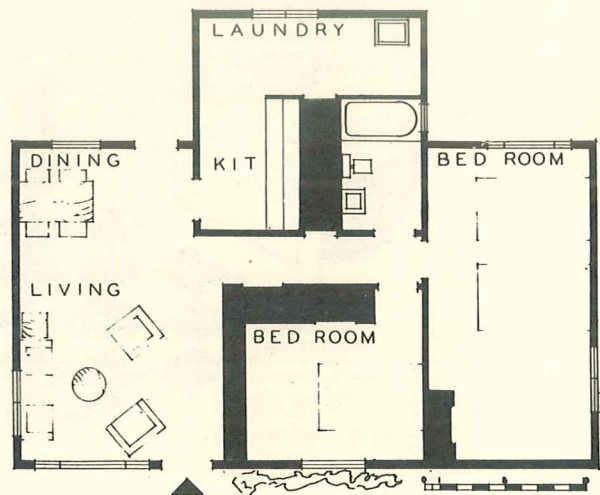


SIZE 26' X 28'
UNIVERSAL FABRICATING
COMPANY
ENID, OKLAHOMA

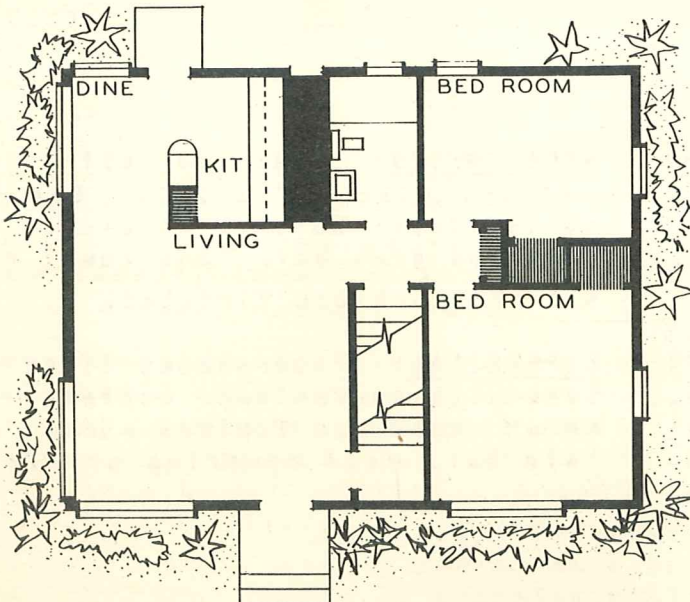
PRACTICAL BUILDER
MIRACLE
HOME FOR JANUARY
Harry C. Long,
Contractor
AKRON, OHIO



TWO BEDROOM HOME
20' X 36'



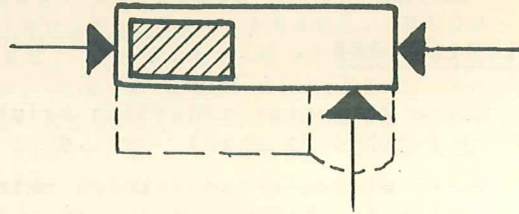
THE "LOOK" MAGAZINE
ADIRONDACK HOME FOR
1948.
Walter Dorwin Teague,
Designer
ADIRONDACK HOMES, INC.
N.Y.C.
BUILDERS



HINTS ON FRAMING

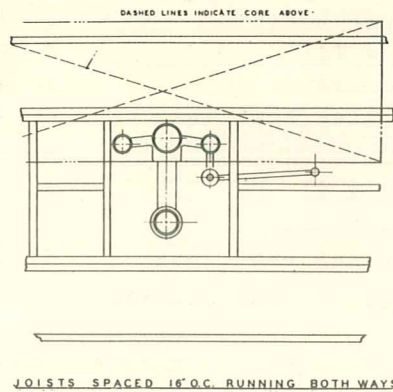
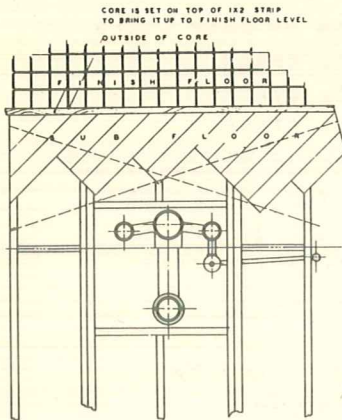
ACCESS

SOME MEANS OF GETTING INTO CORE FOR SERVICE AND MAINTENANCE MUST BE PROVIDED. AT FURNACE END AN END DOOR IS PREFERABLE. ON OTHER END EITHER AN END DOOR OR A DOOR BEHIND REFRIGERATOR IS POSSIBLE.



FRAMING - UNDER CORE

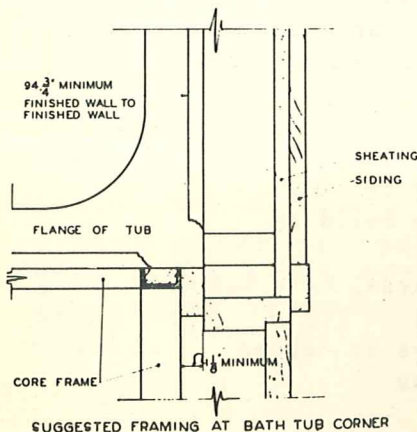
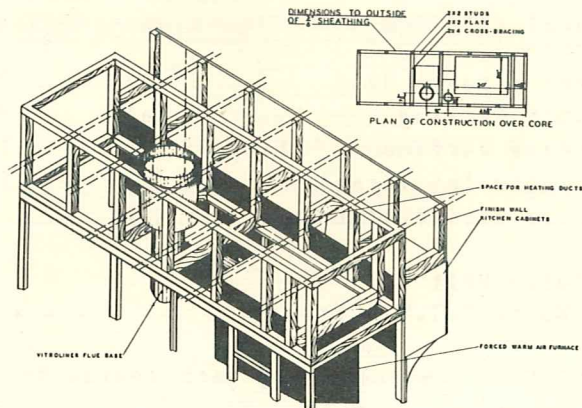
IN PROVIDING FOR UNDER-FLOOR FRAMING NOTE IN PARTICULAR SOIL STACK CASTING, WATER CLOSET BEND, WASTE LINE FROM BATH TAP, AND COLD AIR RETURN IF USED.



JOISTS SPACED 16" O.C. RUNNING BOTH WAYS.

ABOVE CORE

IN LAYING OUT ABOVE CORE FRAMING, PROVIDE FOR CHIMNEY FLUE, VENT STACK, PLENUM CHAMBER, AND SOFFIT OVER KITCHEN CABINETS.



LOCATION OF CORE

WHEN LOCATING CORE NOTE THAT CORE DOES NOT SET FLUSH AGAINST THE WALL. THIS IS VERY IMPORTANT IN PROVIDING PROPER INSTALLATION.

CORE COVERING

ANY CONVENTIONAL WALL COVERING CAN BE USED. WOOD NAILING STRIPS ARE PROVIDED ATTACHED TO CORE. CORE COVERING NOT FURNISHED BY INGERSOLL.

QUICK METHOD - HEAT LOSS CALCULATION

A PRELIMINARY CHECK MAY BE MADE BY TREATING THE HOUSE AS ONE BIG ROOM INSTEAD OF FIGURING EACH ROOM SEPARATELY. USING TEST HOUSE ON FOLLOWING PAGE AS EXAMPLE.

CALCULATIONS . . .

1. House Perimeter x ceiling height = Gross exposed walls
 $(2 \times 36) + (2 \times 24) \times 8 = 960 \text{ sq. ft.}$
2. Total window areas + total outside door areas = Total Glass Surface
 $12 (2.5 \times 5) + (3 \times 7) = 192 \text{ sq. ft.}$
3. Gross exposed wall area - Total Glass Surface = Net Exposed Wall
 $960 - 192 = 768 \text{ sq. ft.}$
4. Twice door width + twice door height = Length of Door Crack
 $(2 \times 3) + (2 \times 7) = 20 \text{ ft. crack}$
 $\quad \quad \quad 2 \text{ doors} = 40 \text{ ft. crack}$
 Use $\frac{1}{2}$ total crack for computing heat loss = 20 ft. crack
5. Three x Window Width + Twice Window Height = Length of Window Crack
 $(3 \times 2.5) + (2 \times 5) = 17.5 \text{ feet of crack}$
 $\quad \quad \quad 12 \text{ windows} = 210 \text{ feet of crack}$
 Use $\frac{1}{2}$ total crack for computing heat loss = 105 feet of crack
6. Area of cold ceiling $36 \times 24 = 864 \text{ sq. ft.}$

Using Tables from National Warm Air Heating Association Manual No.7
 Design Temperature Difference of 80°F Taken for this Example.

HEAT LOSS THM.	TABLES 2a & ab	AREA SQ. FT. OR FEET OF CRACK	HEAT LOSS FACTOR TABLE 2a & 2b	HEAT LOSS B.T.U. PER HR.
Net Exposed Wall	3 (a)	768	20	15,360
Cold Ceiling	19 (a)	864	27	23,328
Glass Surface	1 (a) & 2 (a)	192	90	17,280
Window Infiltration	28 (a)	105	57	5,985
Door Infiltration	32 (a)	20	160	3,200

Total Heat Loss of

House B.T.U. - Hr. 65,153

NOTE*: In computing heat losses through concrete slabs on the ground use Perimeter formula. Providing slab has gravel bed, waterproofing, paper, and insulation strip around exposed edges, the major heat loss then will only be within approximately 4' of the slab perimeter and the heat loss will decrease rapidly as the distance from the slab edge increases.

PERIMETER FORMULA $H = F \times P \times D$

where H = Total heat loss from slab floor

F = Heat loss factor (from .02 to .04)
 which may be obtained from Building
 Materials and Structures.

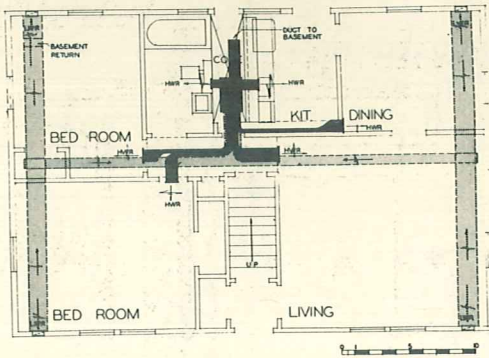
Report BMS 103 N.B. Standards.

P = Perimeter of floor in feet

D = Average January degree days as issued
 by the U. S. Weather Bureau

*Perimeter Formula Taken from FHA Minimum Property Requirements Bulletin
 FHA Form No. 2250 revised July, 1947.

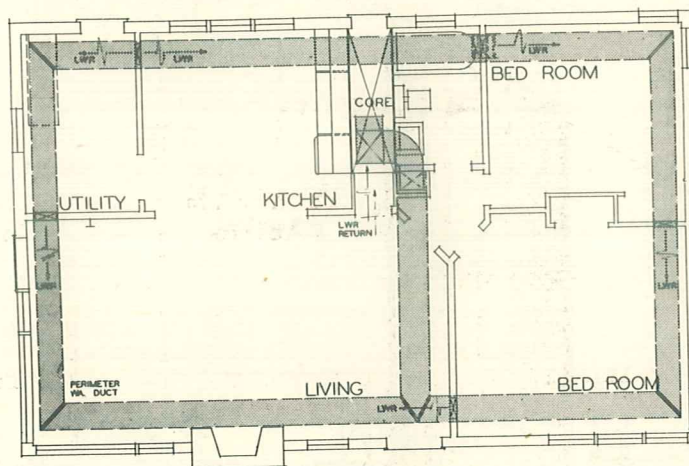
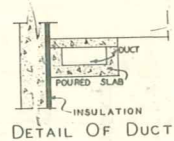
TYPICAL HEATING LAYOUTS



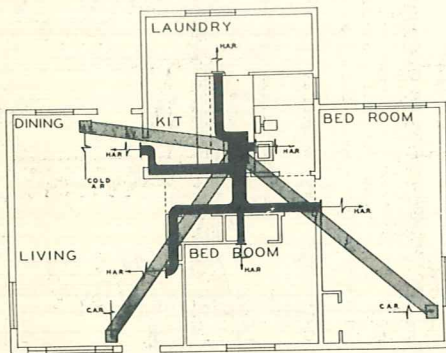
DIMENSIONS: 24' X 36', 8 FT. CEILING

CONSTRUCTION: FRAME, WOOD SIDING, PAPER, SHEATHING, STUDS, LATH AND PLASTER, NO FLOOR ABOVE, NO INSULATION FULL BASEMENT. TWELVE DOUBLE-HUNG WINDOWS, NO WEATHER STRIPPING OR STORM SASH, TWO DOORS, NOT WEATHER STRIPPED, NO STORM DOORS.

PLAN FOR HEAT LOSS CALCULATION

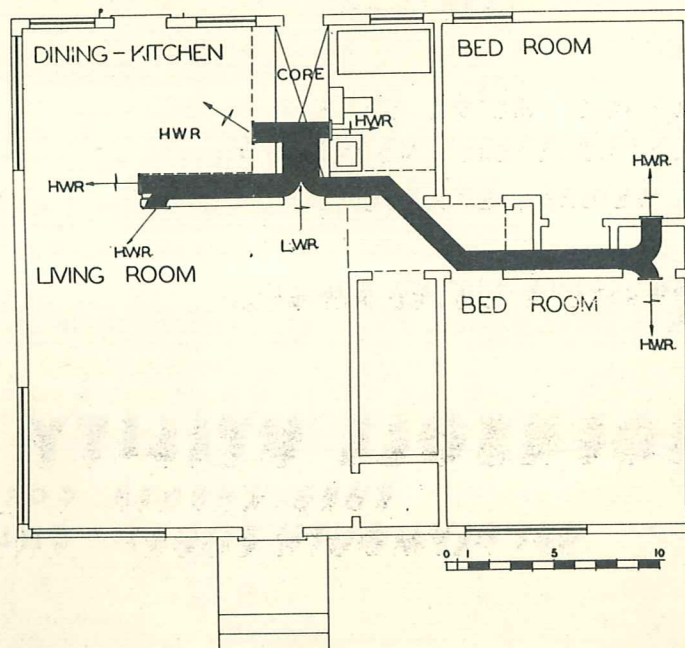


SLAB TYPE HOUSE. PERIMETER DUCT. REGISTERS TAKEN AT PARTITIONS FOR QUICK HEATING.

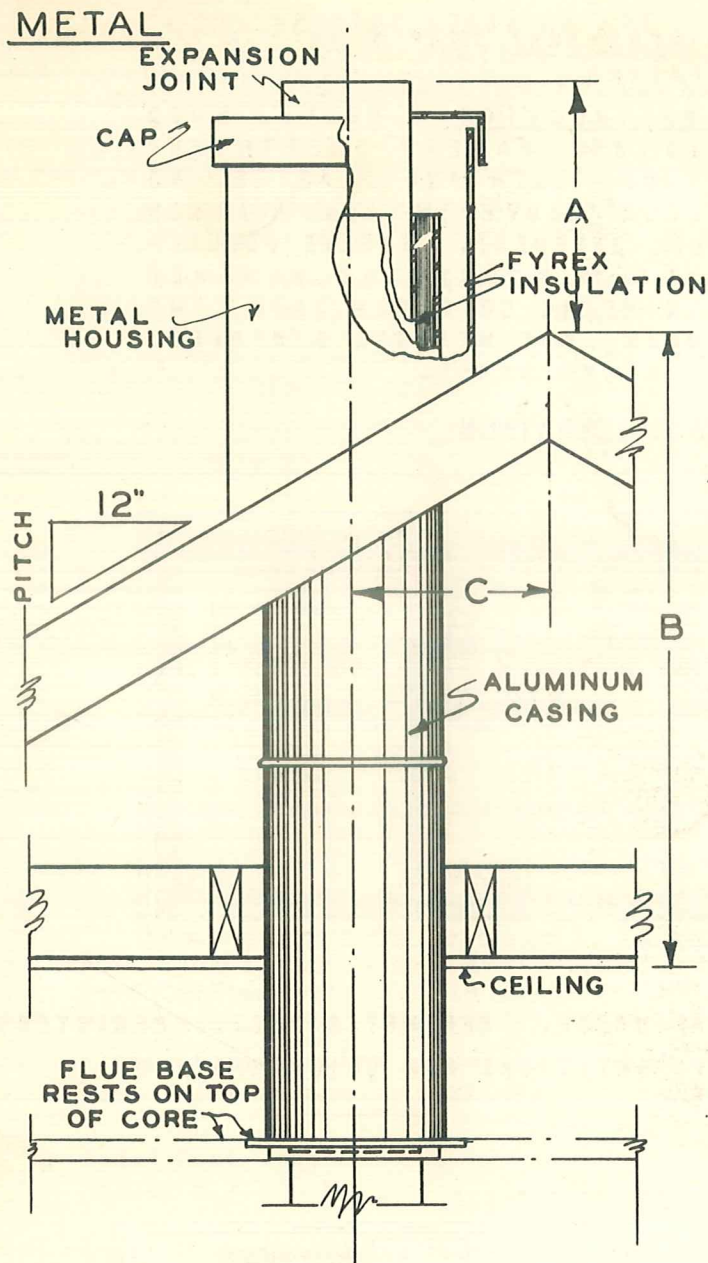


UNDERFLOOR COLD AIR RETURN SYSTEM. CAN BE USED WITH EITHER SLAB OR BASEMENT FRAME CONSTRUCTION.

SINGLE FRONT OF FURNACE USED AS COLD AIR RETURN. UNDERFLOOR RETURNS PREFERABLE.

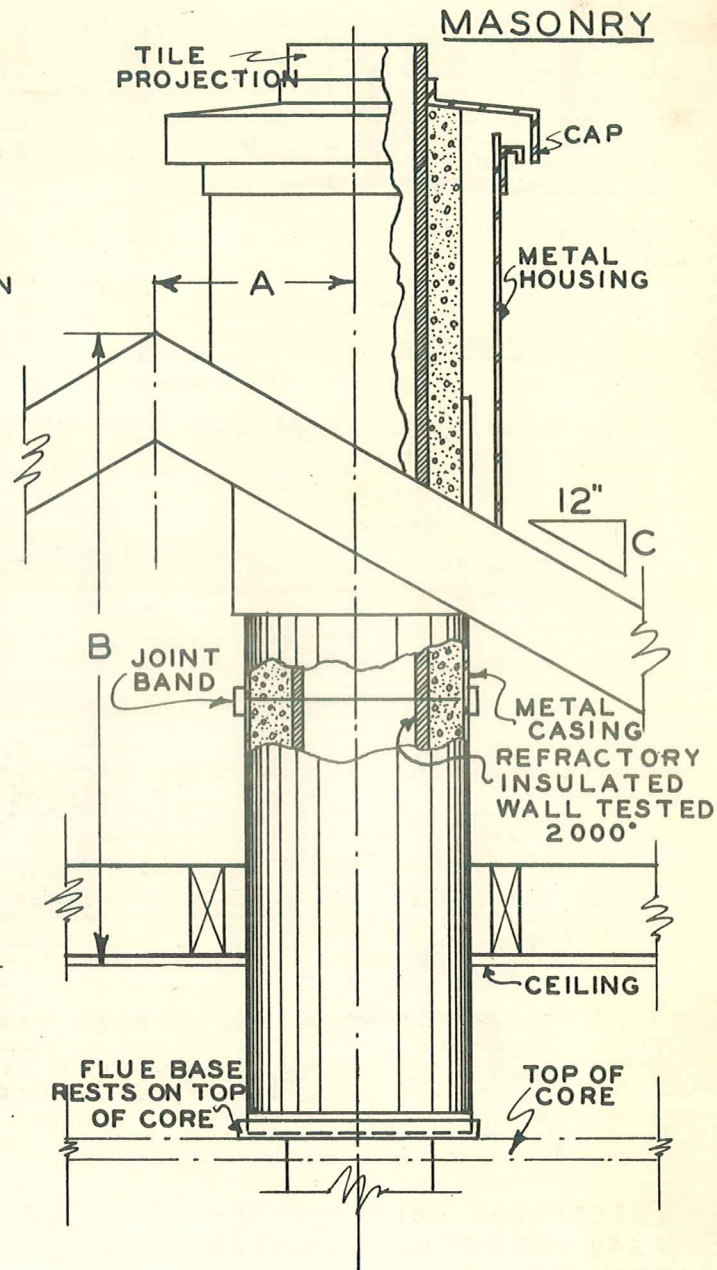


PACKAGED FLUE DETAILS



A PACKAGED METAL FLUE,
INSULATED, EASILY ASSEMBLED,
LIGHT WEIGHT, EFFICIENT.

UNDERWRITERS LISTED FOR ALL
FUELS.



A TILE LINED INSULATED,
REINFORCED, LIGHT WEIGHT,
MASONRY PACKAGED CHIMNEY,
EFFICIENT & EASILY ASSEMBLED.

UNDERWRITERS LISTED FOR ALL
FUELS IN 1&2 STORY HOUSES.

INGERSOLL UTILITY UNIT DIVISION

BORG-WARNER CORPORATION

321 PLYMOUTH COURT • CHICAGO 4, ILLINOIS